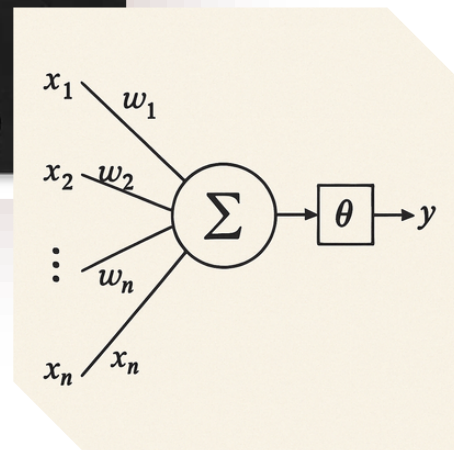
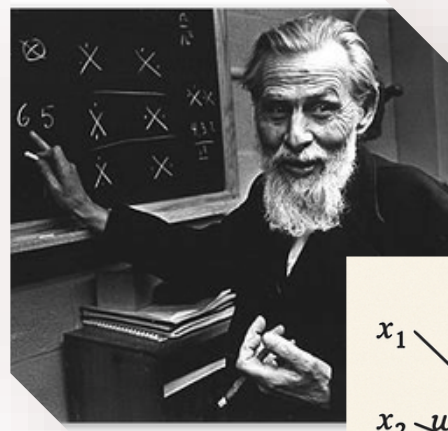


AI Evolution

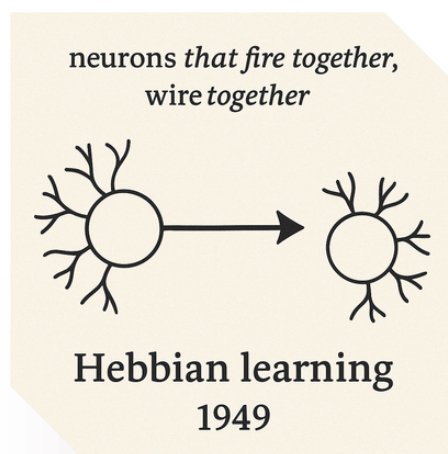
Theoretical Foundations (1940s-Early 1950s):

1943: Warren McCulloch & Walter Pitts proposed the first mathematical model of an artificial neuron



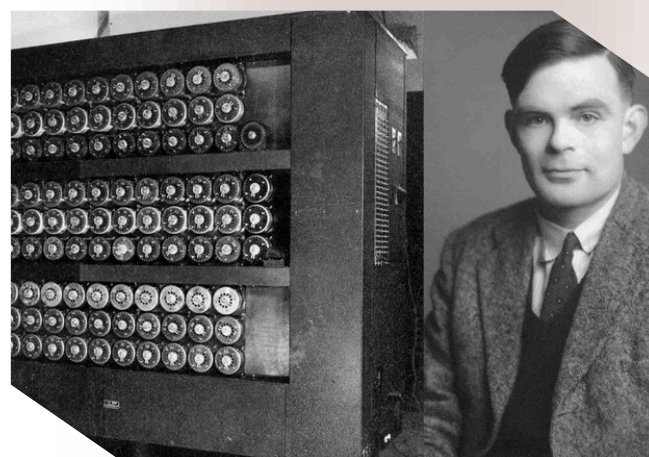
1949: Donald Hebb proposes that neurons that fire together, wire together

Foundation for unsupervised learning.

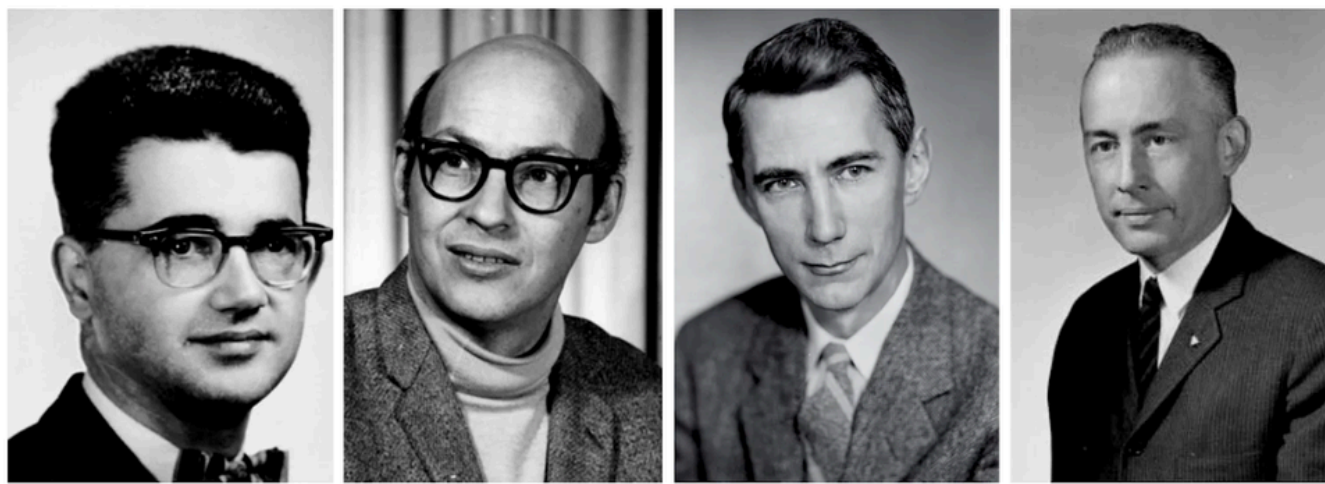


1950: Alan Turing proposes the "Imitation Game," now known as the Turing Test, as a benchmark for machine intelligence.

Foundation for unsupervised learning.



Early Optimism (Mid-1950s - 1960s):



The proposers of the 1956 Dartmouth Conference. From left to right: John McCarthy, Marvin Minsky (Photo: MIT Museum), Claude Shannon () and Nathaniel Rochester (Photo: Institute of Electrical and Electronics Engineers Inc)

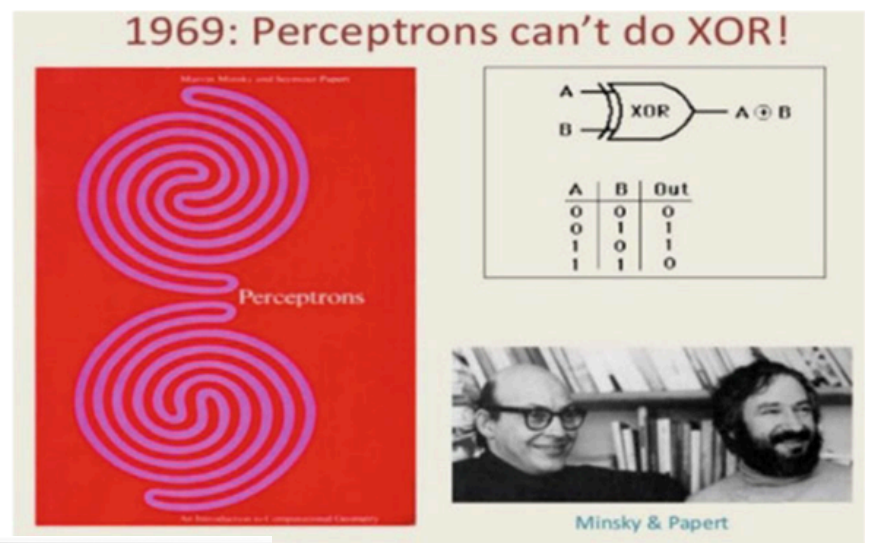
A workshop organized by John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon. Establishment of MIT AI Lab

McCarthy found the Stanford AI Lab (SAIL). He coined the term Artificial Intelligence.



The Symbolic vs. Connectionist Divide & The First "AI Winter" (Late 1960s - 1970s) 1950s):

1969: Marvin Minsky & Seymour Papert: Publish the book "Perceptrons" citing limitations of single layer networks. It solidified the dominance of the Symbolic AI paradigm championed by Minsky, Newell, Simon, and McCarthy.



Expert Systems - (1970s to 2000s)

Development of new algorithms like backpropagation allowed training of multi-layer neural networks

LISP machines(used by symbolists) markets collapse with emergence of minrocomputers



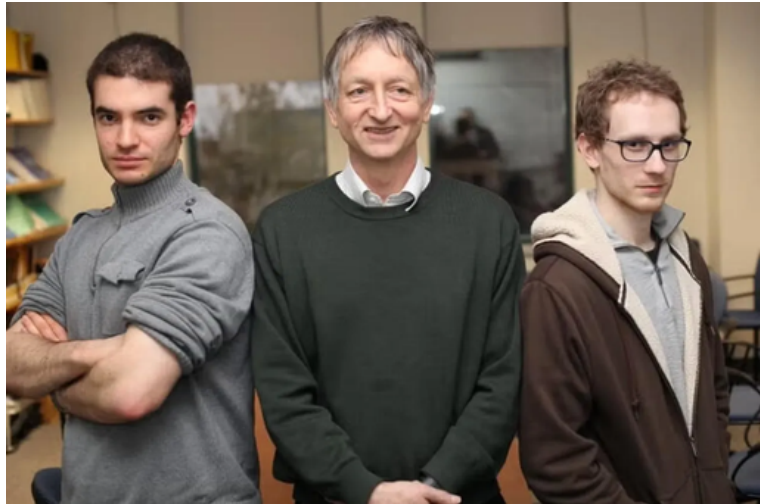
Early 2000s - Setting the Stage (The "Quiet" Years for Neural Nets)

NVIDIA, under CEO Jensen Huang, releases CUDA (Compute Unified Device Architecture) in 2006/2007.



Post-2012 - The Deep Learning Explosion:

Hinton, Sutskever, Krizhevsky -> AlexNet
-> GPUs (NVIDIA/Jensen Huang enabling it) -> ImageNet dataset -> Deep Learning Revolution begins.



Late 2010s - 2020s - Rise of Large Language Models (LLMs):

2017: The Transformer Architecture

"Attention Is All You Need" published by researchers at Google Brain

Relies entirely on self-attention mechanisms. Instead of recurrence

GPT-3 - 2020: Massive model (175 billion parameters)

Post-ChatGPT (2023 - Present):



Ilya Sutskever co-founded OpenAI in 2015 (along with Elon Musk, Sam Altman, Greg Brockman, and others)

